

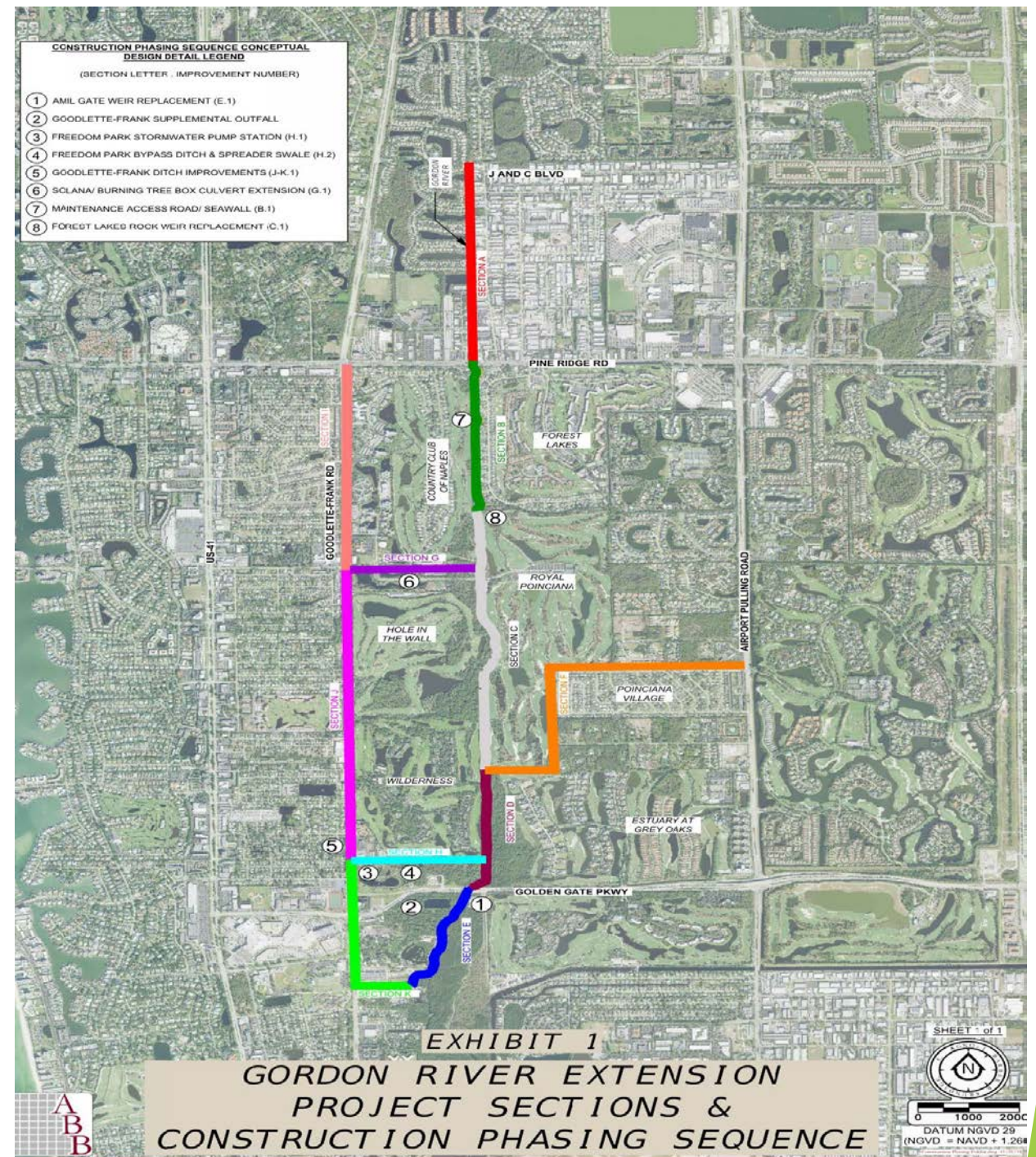
An aerial photograph of a river or stream, showing a large log floating in the water. The water is a deep blue-green color, and the log is a dark brown. The surrounding area is a mix of green and brown, suggesting a natural, undeveloped landscape.

Collier County Stormwater Overview

April 25, 2019

Gordon River Master Plan Overview

- ❖ AMIL Gate Weir Replacement
- ❖ Goodlette-Frank Supplemental Outfall
- ❖ Freedom Park Stormwater Pump Station
- ❖ Freedom Park Bypass Ditch & Spreader
- ❖ Goodlette-Frank Ditch Improvements
- ❖ Solana/Burning Tree Box Culvert Ext.
- ❖ Maintenance Access Road/Seawall
- ❖ Forest Lakes Rock Weir Replacement



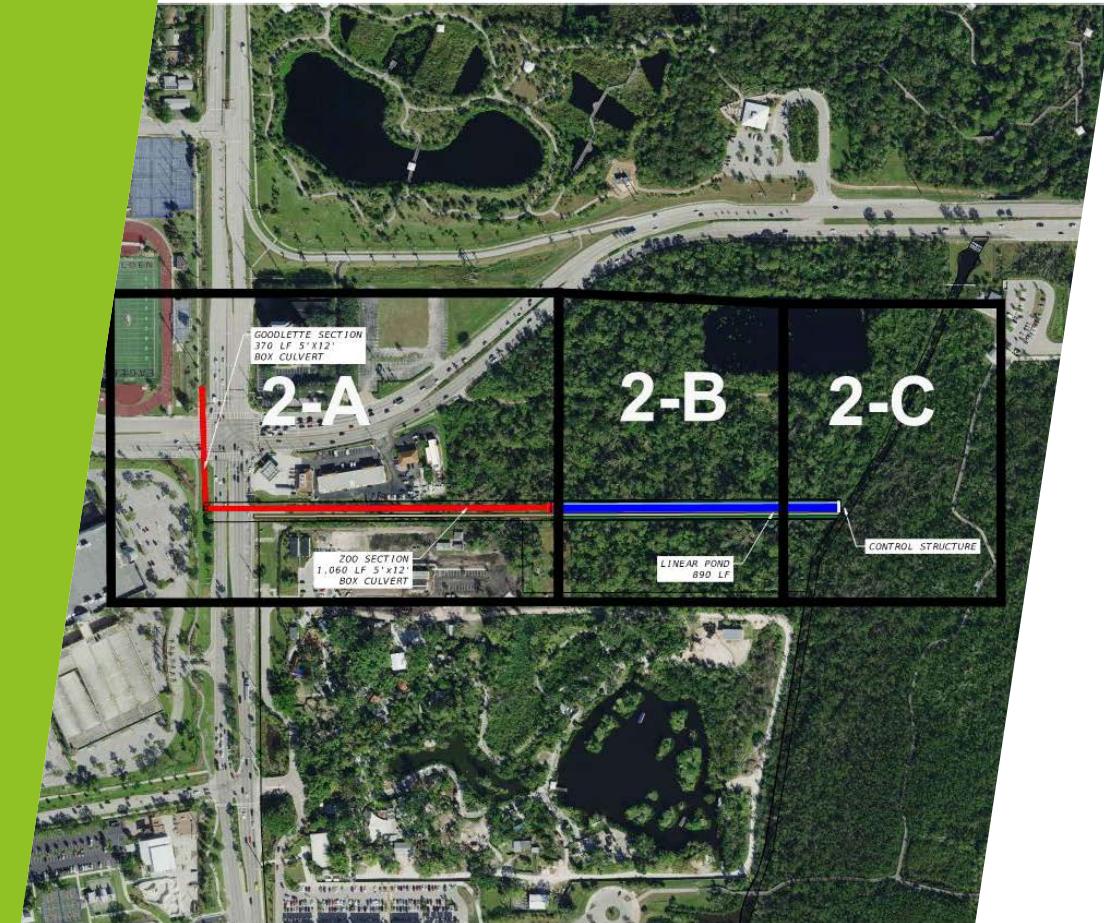
Amil Gate Weir Replacement



- ▶ Primary outfall structure for the entire GRE basin
- ▶ Existing AMIL Gate weir is outdated and in disrepair
 - ▶ Currently does not allow enough flow to pass to relieve upstream flood stages
- ▶ Proposed: New, fully automated, bottom-hinged crest gate
 - ▶ Improve upstream flooding issues
 - ▶ Easily maintained and relieves the varying upstream stages that fluctuate throughout the year
 - ▶ Can be set to an elevation to prevent backflow/saltwater intrusion.
 - ▶ The full automation provides faster and easy manipulation of the weir elevations remotely, thereby saving time during urgent flooding scenarios
 - ▶ A floating debris boom is recommended upstream of Golden Gate Parkway to prevent clogging and debris build up in the box culverts during heavy wind and rain events

Goodlette-Frank Supplemental Outfall

- ▶ Connection of the Goodlette-Frank (GF) ditch to the Gordon River and would consist of:
 - ▶ Box culvert improvements under Golden Gate Parkway and GF Rd
 - ▶ Linear pond improvement
 - ▶ Fixed crest weir that would outfall into the Gordon River
- ▶ Project Benefits:
 - ▶ Improve upstream flooding issues
 - ▶ Accommodate the additional flows from GF Rd, the GF ditch, Naples High School, Golden Gate Parkway, the Coastland Center mall, and flow from upstream sections
 - ▶ An access road is proposed to connect from GF Rd to the control structure for maintenance of the supplemental outfall



AERIAL VIEW

EXHIBIT 11

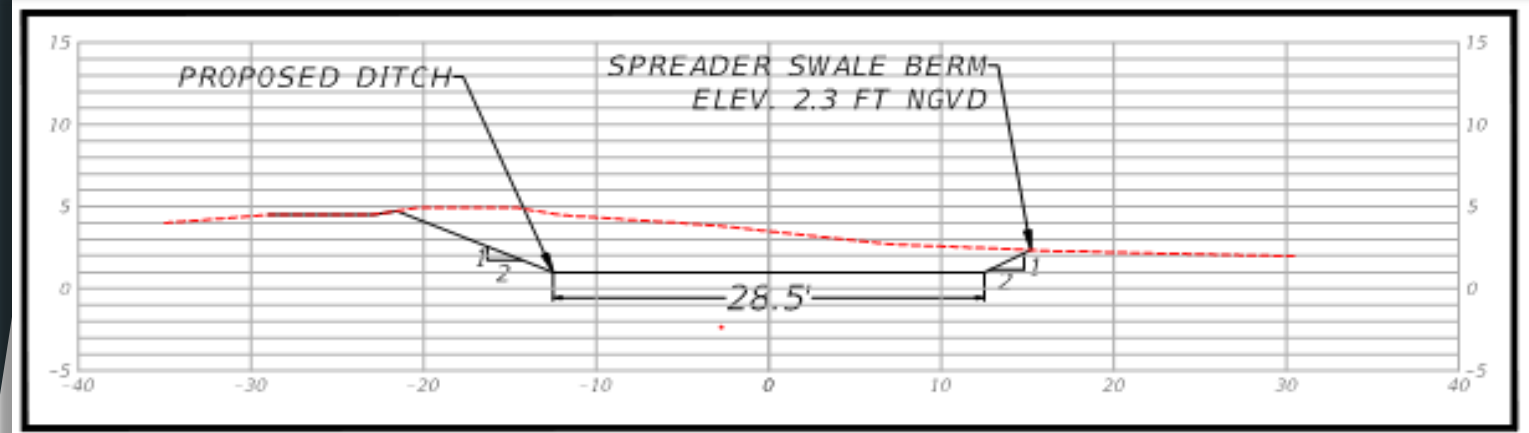
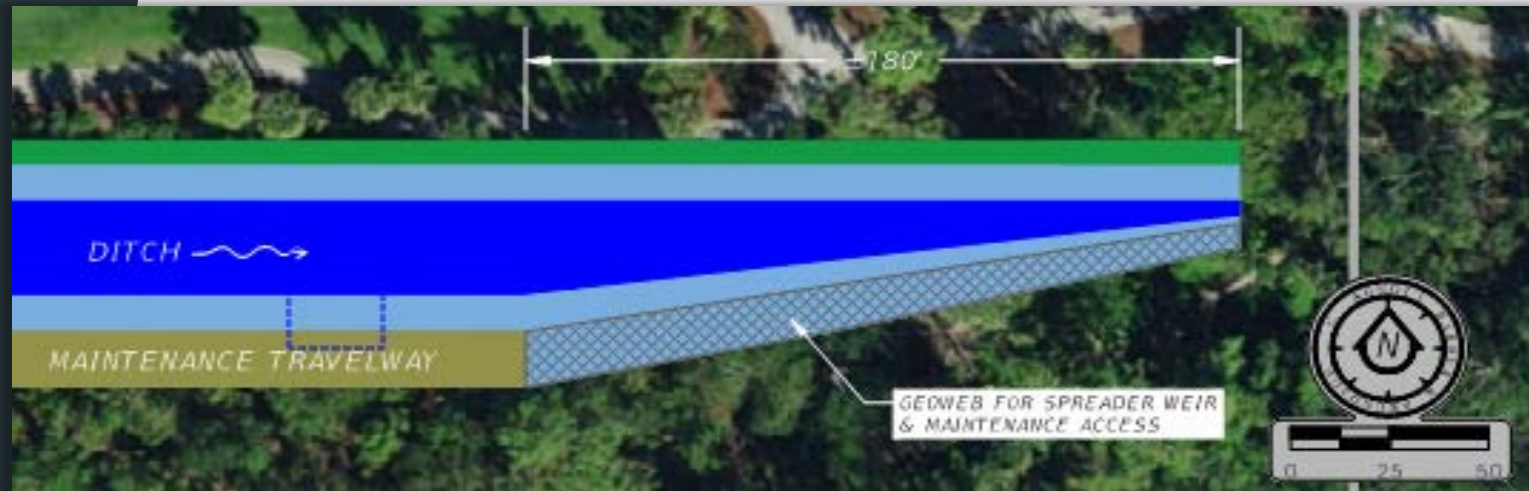
Freedom Park Stormwater Pump Station

- ▶ The proposed pump station will supplement the existing pump station and increase the stormwater entering the water quality treatment wetland system
 - ▶ Currently does not allow enough flow to pass to relieve upstream flood stages
 - ▶ Improve upstream flooding issues



Freedom Park Bypass Ditch & Spreader Swale

- ▶ The bypass ditch was intended to provide capacity for all stormwater entering Freedom Park
- ▶ The bypass ditch is proposed to be widened and introduce flow to the wetland through a 180ft long spreader swale
- ▶ The Freedom Park Bypass Ditch & Spreader Swale improvement also includes the replacement of the existing fabriform weir

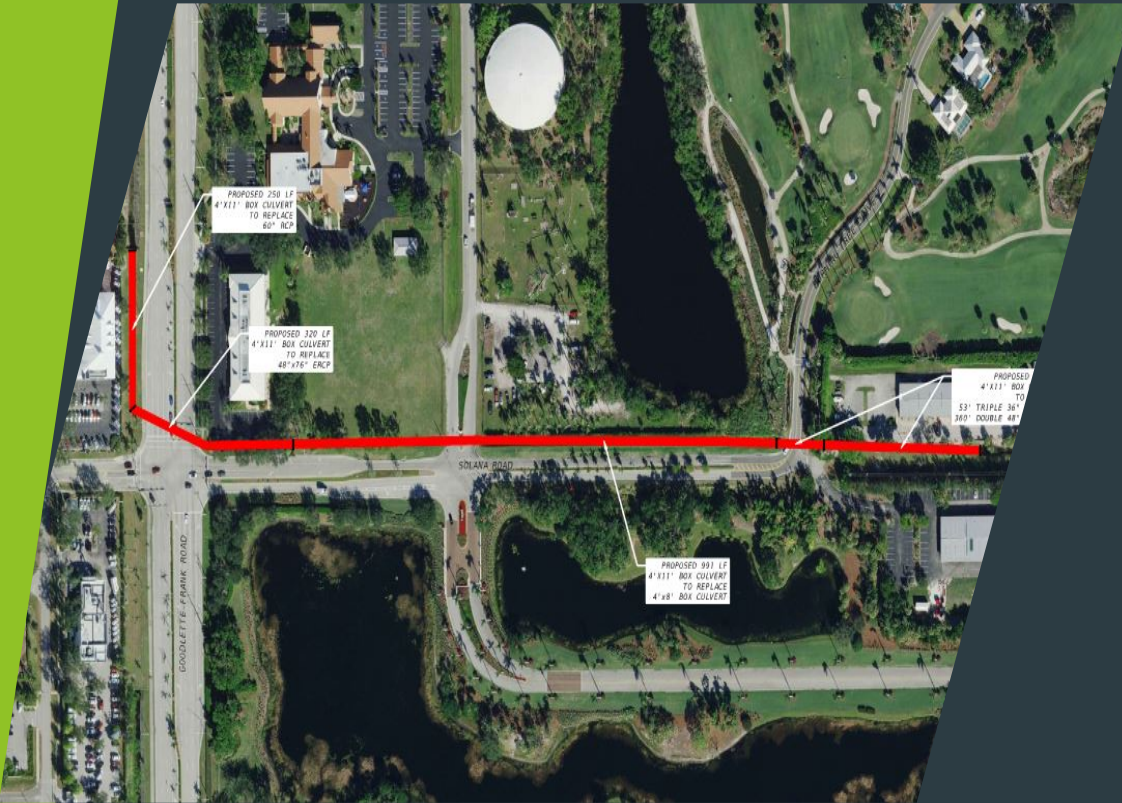




Goodlette-Frank Ditch Improvements

- ▶ The ditch requires regrading and pipe crossings replaced with box culverts to provide conveyance downstream
- ▶ All proposed box culvert and regraded ditch inverts would provide positive drainage in the downstream direction

Solana/Burning Tree Box Culvert Extension



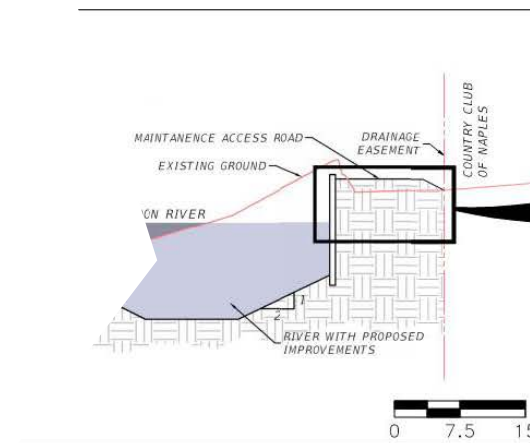
- ▶ Substantial street and yard flooding within the County Club of Naples is a result of undersized infrastructure along Solana Rd, GF Rd, and internally within the Country Club of Naples Community
- ▶ Proposed:
 - ▶ 4ft x 11ft box culvert is proposed to replace the existing infrastructure along Solana Rd
 - ▶ Installation of 66in RCP along the west side of Goodlette Frank Road

Maintenance Access Road/Seawall

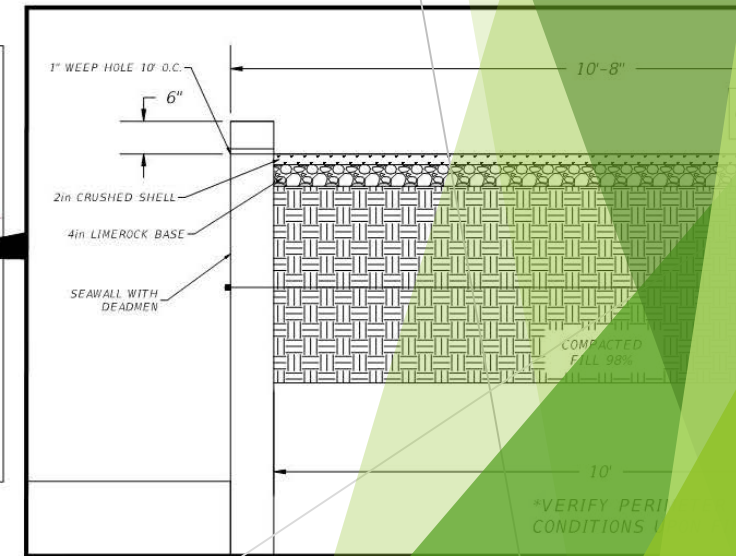
- ▶ The proposed improvement includes a maintenance access road/seawall along western bank
- ▶ Removal of the earthen berms as well as the deepening and widening of the channel
- ▶ Seawall and maintenance path will allow for regular maintenance of the system while still allowing channel widening for additional flow capacity



PLAN VIEW



SECTION VIEW A-A



DETAIL

EXHIBIT 16

MAINTENANCE ACCESS ROAD/SEAWALL (B)

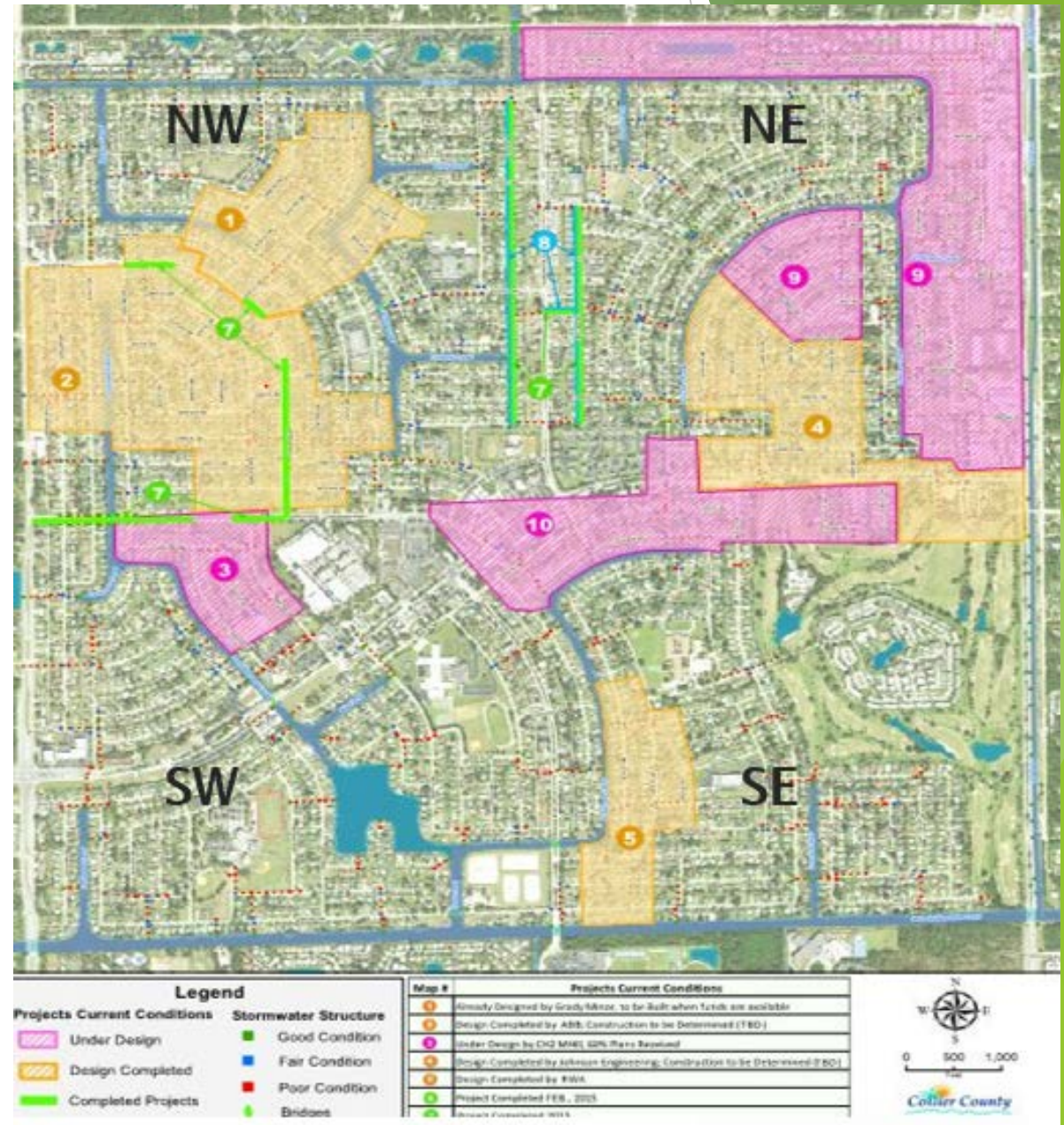


Forest Lakes Rock Weir Replacement

- ▶ Earthen berm and not an operable water control structure
- ▶ Spans the channel approx. 40 ft. long
- ▶ Crest elevation of 6.0 ft NGVD
- ▶ The Forest Lakes community is considered to be low-lying and has had historical flooding issues with this weir in place
- ▶ Proposed: New fixed crest weir with removable sluice gates
 - ▶ Improve upstream flooding issues
 - ▶ maintain or relieve the varying upstream stages

Golden Gate City Stormwater Outfall Project

- Covers a four (4) sq. mile area
- Water quality improvements & flood reduction
- Estimated total cost: \$50M
 - \$ 38M Construction
 - \$ 6M Design
 - \$ 4M CEI
 - Inflation
- Project Includes:
 - ▶ Roadside treatment swales
 - ▶ Sediment trap installation
 - ▶ New replacement piping



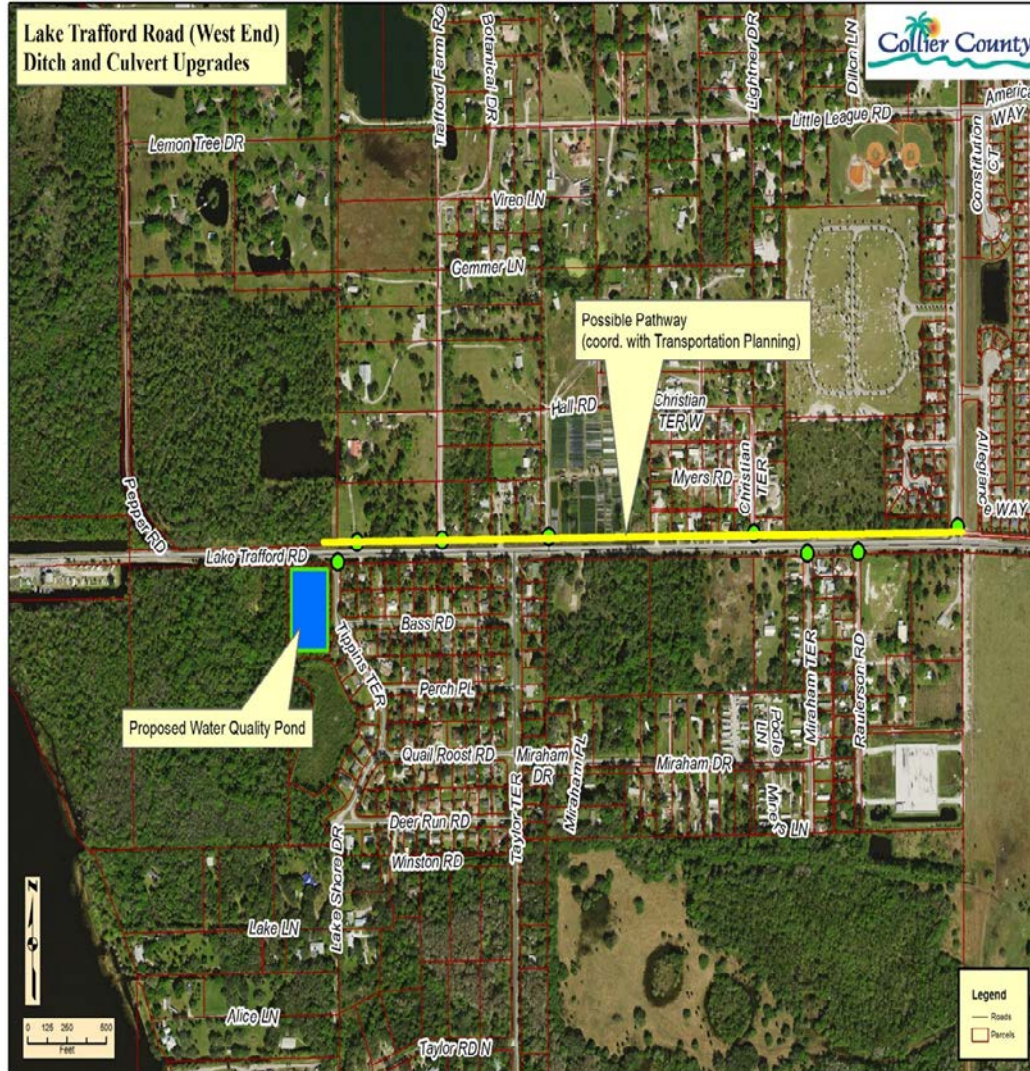
Immokalee Stormwater Master Plan

- ▶ Major Water Quality Improvement Project
 - ▶ Immokalee Stormwater Master Plan Update
 - ▶ Presented to the Immokalee CRA May 2018
- ▶ Project Includes:
 - Stormwater treatment ponds
 - Storm drains and culverts
 - Coordination with:
 - ▶ Immokalee CRA
 - ▶ Lake Trafford Management Group
 - ▶ Immokalee Water & Sewer District
 - ▶ Seminole Tribe
- ▶ Benefits:
 - Protection of Lake Trafford remediation efforts
 - Improve water quality
 - Reduced localized flooding



Immokalee Stormwater Master Plan

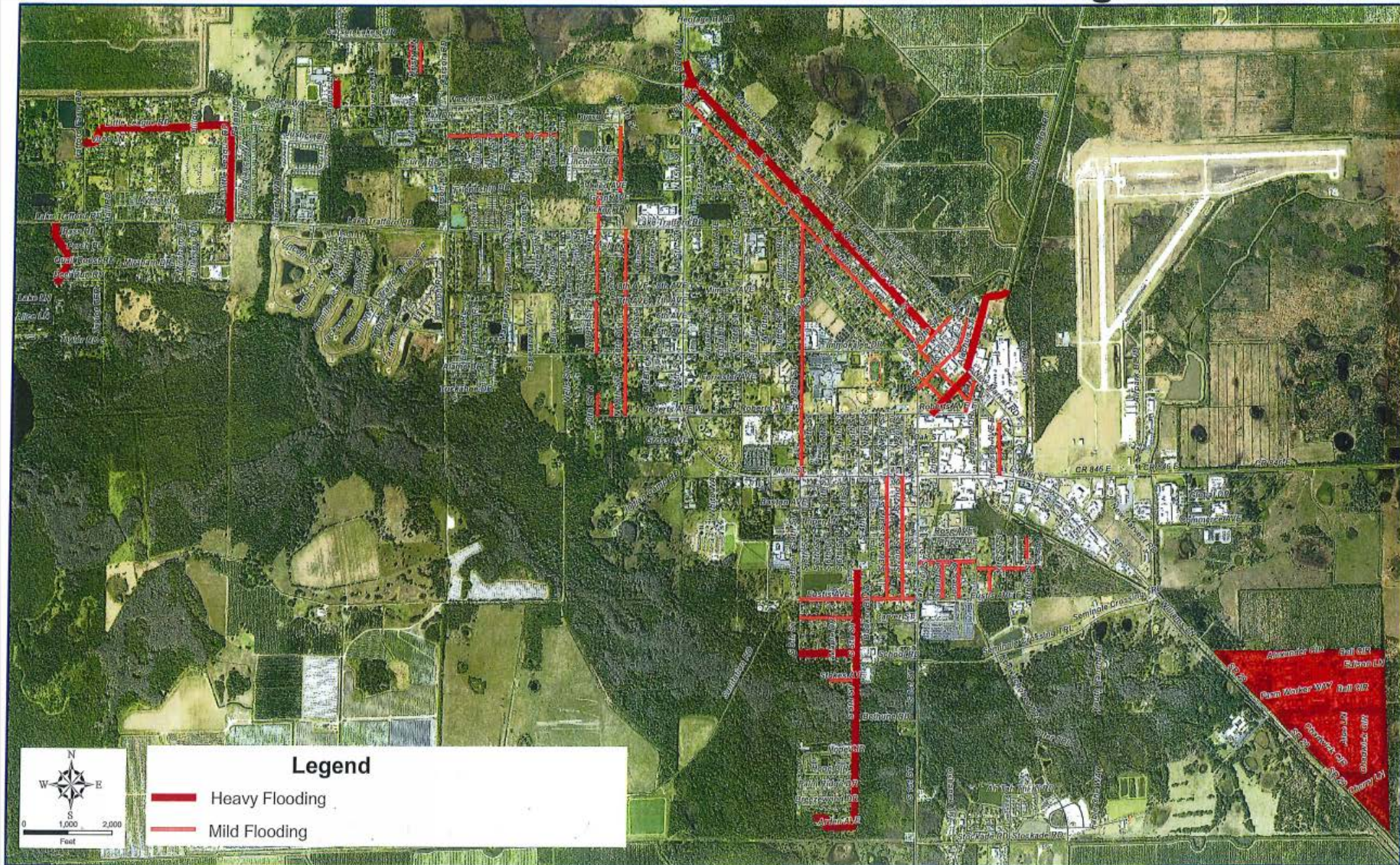
Lake Trafford Road (West End) Ditch and Culvert Upgrades Project



Highest priority project of the nine (9) conceptual stormwater projects of the Immokalee Stormwater Master Plan

Immokalee Stormwater Master Plan

Additional Stormwater Maintenance Initiatives in the Immokalee Community



FY20 Stormwater Capital Projects

- ▶ Stormwater Feasibility and Preliminary Design
- ▶ NPDES MS4 Program
- ▶ Stormwater Maintenance
- ▶ GG City Outfall Replacements
- ▶ Pine Ridge (FKA Mockingbird Lake)
- ▶ Immokalee Stormwater Improvements
- ▶ Naples Park Stormwater Improvements (PUD)
- ▶ W. Goodlette-Frank (City of Naples)
- ▶ Harbor Lane Brookside
- ▶ Upper Gordon River
- ▶ Griffin Road Area Outfall
- ▶ RESTORE
- ▶ Weir Automation
- ▶ I-75 Coco Interconnect (SFWMD)
- ▶ Cocohatchee Dredge (SFWMD)
- ▶ Palm River SW Improvements Project (PUD)
- ▶ Poinciana Village SW Improvements
- ▶ Plantation Island Canals/Ditches (State)
- ▶ Modeling Coco/Haldeman/Henderson (SFWMD)
- ▶ Naples Manor (CDBG)